

**Remarks****Claim Rejections under 35 U.S.C. 112**

Applicants have canceled claim 20 without prejudice. The rejection of claim 20 under 35 U.S.C. 112 is now moot.

**Claim Rejections under 35 U.S.C. 103**

Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being unpatentable over Weidman (U.S. Pat. No. 5,664,037). Claims 2-8 and 10-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weidman (U.S. Pat. No. 5,664,037) in view of Xu (U.S. Pat. No. 6,788,852).

Regarding claim 1, Weidman discloses a fiber optic coupling device (10, fig. 1). The fiber optic coupling device comprises a plurality of fibers (16) extending in a parallel array, at least two coupling regions (11, 12) along the length of said array where the cross-sectional area of said fibers (16) is smaller than the cross-sectional area of said fibers (16) at the first and second ends (14, 15) of said array, wherein said fibers (16) and said coupling regions (11, 12) are formed such that light, which had been propagating in one of said fibers into a first of said coupling regions, and has separated in said first of said coupling regions so that it propagates in at least two of said fibers from said first of said coupling regions into a second of said coupling regions, does not interfere in said second of said coupling regions.

In response to the rejection, applicants now traverse as follows:

Firstly, the present invention comprises *at least one receiving sleeve receiving the first, second and third fusion regions therein, and the receiving sleeve having a cylindrical shape, are not disclosed in Weidman's WDM coupler system.*

In addition, Weidman discloses that its fiber optic coupling device comprises a plurality of fibers (16) extending in a parallel array, and at least two coupling regions (11, 12) along the length of said array where the cross-sectional area of said fibers (16) is smaller than the cross-sectional area of said fibers at the first and second ends (14, 15) of said array. Because the receiving sleeve of the present invention has a cylindrical shape, obviously, the cross-sectional area of the receiving sleeve is the same at the first and second ends thereof. That is, the principle of the present invention is quite different from that of Weidman.

Further, the present invention comprises a first fiber fusing with a second and third fibers and elongating to a length to form a first and second fusion regions at two different portions of the first fiber, the second fiber extended from the first fusion region further fusing with a fourth fiber and elongating to a length to form a third fusion region.

Weidman only discloses that a plurality of fibers (16) extends in a parallel array, and fails to indicate that the second fiber extending from the first fusion region further fuses with a fourth fiber and also fails to disclose how the fusion regions are formed by fibers. Differently, the present invention does not need fusion knots and the normal insertion loss is reduced, and the package size of the present invention is scaled down. Thus, the invention of claim 1 is clearly different from and novel over that of Weidman.

Also as regards claim 1, Examiner states that U.S. PGPub 2004/0129083 to Fernald et al. teaches a cylindrical glass capillary tube 20 with an optical fiber 10 fused thereto. However, the application date of Fernald et al is Aug. 22, 2003, which is later than the foreign priority date claimed for the present invention, namely Nov. 08, 2002. Thus the Fernald reference does not necessarily constitute valid prior art as at the time of the present invention. In any event, if further argument is needed, the cylindrical glass capillary tube disclosed by Fernald et al. is used for a grating sensor, not for a WDM assembly. Thus, Fernald et al. is

non-analogous art; or at the very least, it would not have been obvious to one having ordinary skill in the art at the time of the present invention to use a cylindrical glass capillary tube for a WDM assembly. In addition, the receiving sleeve of the present invention can receive a plurality of optical fibers, whereas the cylindrical glass capillary tube disclosed by Fernald et al. can only receive one optical fiber. Therefore, the receiving sleeve of the present invention is quite different from the glass capillary tube 20 disclosed by Fernald. Thus applicants respectfully further submit that any additional teaching by Fernald applied to the teachings of Weidman still falls short of leading one of ordinary skill in the art to provide the invention of claim 1. That is, claim 1 is submitted to be unobvious and patentable over Weidman.

On this basis, claims 3-8 should be allowable as being dependent on independent claim 1.

If further argument is needed, applicants assert as follows:

Regarding claim 3, the present invention includes glue applied *to the receiving sleeve* for fixing the optical fibers; thus, the optical fibers can be firmly attached *to the receiving sleeve* by the glue. As indicated by Examiner, Xu merely teaches the epoxy element being used to form a seal around the optical fibers per se, with no adhering to a receiving sleeve. In addition, glue is more advantageous than the epoxy element in respect of low cost and stability. Accordingly, applicants assert that a combination of the two references fails to teach or suggest a WDM assembly including in particular the above-stated feature of gluing involving the receiving sleeve. That is, claim 3 is unobvious and patentable over the references.

Regarding amended claim 4, the present invention further includes *at least one shrink sleeve which encloses the receiving sleeve therein, so that the receiving sleeve(s) (30, 40) can be fixed in the shrink sleeve (50) by heating.*

Weidman fails to disclose this feature. As indicated by Examiner, Xu does not teach or suggest shrink sleeves. Accordingly, applicants assert that a combination of the two references fails to teach or suggest a WDM assembly including in particular the above-stated feature regarding the at least one shrink sleeve. That is, amended claim 4 is unobvious and patentable over the references.

Claims 5 and 6 each depend upon amended claim 4, and therefore should also be patentable. Claim 7 depends upon claim 6, and therefore should also be patentable.

In response to the rejection of claim 9, applicants now traverse as follows:

Weidman only discloses that a plurality of fibers (16) extends in a parallel array, and fails to disclose a first fiber fusing with a second and third fibers and elongating to a length to form a first and second fusion regions at two different portions of the first fiber, the second fiber extending from the first fusion region further fusing with a fourth fiber and elongating to a length to form a third fusion region, in such way, the plurality of optical fibers forming a plurality of fusion regions. Differently, the present invention does not need fusion knots and the normal insertion loss is reduced, and the package size of the present invention is scaled down. That is, the principle of the present invention is quite different from that of Weidman, and claim 9 is submitted to be unobvious and patentable over Weidman.

On this basis, claims 10-19 should be allowable as being dependent on independent claim 9.

If further argument is needed, applicants assert as follows:

Regarding claim 10, at least one receiving sleeve receiving the first, second and third fusion regions therein, and the receiving sleeve having a cylindrical shape, are not disclosed in Weidman's WDM coupler system. In addition, Xu

also fails to teach at least one receiving sleeve receiving the first, second and third fusion regions therein. Accordingly, applicants assert that a combination of the two references fails to teach or suggest a WDM assembly including in particular the above-stated features of the at least one receiving sleeve. That is, claim 10 is unobvious and patentable over the references.

Regarding claim 11, the present invention includes glue applied *to the receiving sleeve* for fixing the optical fibers; thus, the optical fibers can be firmly attached *to the receiving sleeve* by the glue. As indicated by Examiner, Xu merely teaches the epoxy element being used to form a seal around the optical fibers per se, with no adhering to a receiving sleeve. In addition, glue is more advantageous than the epoxy element in respect of low cost and stability. Accordingly, applicants assert that a combination of the two references also fails to teach or suggest a WDM assembly including in particular the above-stated feature of gluing involving the receiving sleeve. That is, claim 11 is unobvious and patentable over the references.

Further and in any event, applicants refer to and rely on the above assertions regarding patentability of claim 10 over Weidman in view of Xu under 35 U.S.C. 103. Because claim 11 depends upon claim 10, claim 11 should likewise be patentable over Weidman in view of Xu under 35 U.S.C. 103.

Regarding amended claim 12, the present invention includes at least one shrink sleeve enclosing the receiving sleeve therein, so that the receiving sleeve(s) (30, 40) can be fixed in the shrink sleeve 50 by heating. Weidman fails to disclose this feature. As indicated by Examiner, Xu does not teach or suggest shrink sleeves. Accordingly, applicants assert that a combination of the two references fails to teach or suggest a WDM assembly including in particular the

above-stated feature regarding the at least one shrink sleeve. That is, amended claim 12 is unobvious and patentable over the references.

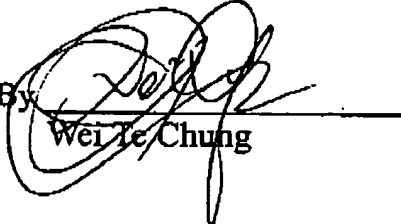
Further and in any event, applicants refer to and rely on the above assertions regarding patentability of claim 10 over Weidman in view of Xu under 35 U.S.C. 103. Because amended claim 12 depends upon claim 10, amended claim 12 should likewise be patentable over Weidman in view of Xu under 35 U.S.C. 103.

Accordingly, claim 13 and claim 14 which each depend upon claim amended 12 should be patentable. In addition, claim 15 which depends upon claim 14 should also be patentable.

As regards claims 16-19, these method claims contain limitations corresponding to the structural limitations in claims 3, 4 and 7, and in claims 9, 11 and 13. Applicants refer to and rely on the above assertions regarding patentability of claims 3, 4 and 7, and claims 9, 11 and 13 over Weidman in view of Xu under 35 U.S.C. 103. For similar reasons, it is submitted that claims 16-19 are also patentable over Weidman in view of Xu under 35 U.S.C. 103.

In view of the above remarks, the subject application is believed to be in a condition for allowance, and an action to such effect is earnestly solicited.

Respectfully submitted,  
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